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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,155	07/23/2003	Pradip Mitra	10919/21401	7997

38441 7590 07/12/2006

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EXAMINER

NGUYEN, HUONG Q

ART UNIT	PAPER NUMBER
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3736

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/625,155	MITRA, PRADIP	
	Examiner	Art Unit	
	Helen Nguyen	3736	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) 3, 5-29, 32 and 34-58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 30-31, 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/23/03, 1/18/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of **Claims 1, 2, 4, 30-31, and 33** of Species 1A in the reply filed on 5/02/2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 7/23/2003 and 1/18/2005 is/are acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1-2, 4, 30-31, and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Anbar (US Pat No. 5961466).

5. In regards to **Claim 1**, Anbar discloses a method of detecting diseased tissue comprising:
recording a series of infrared images of a predetermined area of tissue;

converting the series of infrared images into a corresponding series of thermal images having a plurality of subareas;

determining a plurality of average temperature values for each of the plurality of subareas, each of the plurality of average temperature values for each of the plurality of subareas determined from a corresponding one of the first series of thermal images;

determining an average temperature using the plurality of average temperature values;

analyzing the plurality of average temperature values for each of the plurality of subareas, wherein when a spatial distribution of the plurality of average temperature values corresponding to a cluster comprising at least six adjacent subareas is less than about 20% or more than about 100% of the average temperature, tissue corresponding to the cluster is determined to be diseased (see Claim 1, Col.6, line 55-67; Col.7, line 1-10).

6. However, Anbar does not disclose the method using a first and second series of infrared images in the exact same method as described above. Anbar does further disclose, however, comparing results from two procedures to increase the certainty of the results and diagnosis (Col.6, line 19-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform the method of Anbar, as described above, twice wherein a first and second series of infrared images of a predetermined area of tissue are recorded, the first and second series of infrared images recorded in respective first and second bands of infrared wavelengths, and then continuing with the process as described above to confirm the accuracy of the results obtained from the first series of images.

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7. In regards to **Claim 2**, Anbar discloses a method of detecting diseased tissue wherein analyzing a plurality of average temperature values for each of the plurality of subareas further includes:

determining a contributing frequency of the plurality of average temperature values for each of the plurality of subareas using the series of thermal images;

determining a lower and upper threshold frequencies using the contributing frequency of each of the subareas, wherein a lower threshold is defined as the amplitude of each frequency of the subareas that is less than about 25% of the average amplitude value, and a upper threshold is defined as the amplitude of each frequency of the subareas that is more than 100% of the average amplitude value;

wherein when a spatial distribution of the contributing frequencies of the cluster is less than the lower threshold frequency or more than the upper threshold frequency, tissue corresponding to the cluster is determined to be diseased (see Claim 2, Col.7, line 11-19), wherein it would have been obvious for Anbar to perform the method discussed using a first and second set of contributing frequencies and following through with said method for the reason provided above.

8. In regards to **Claim 4**, Anbar discloses analyzing the first and second pluralities of average temperature values for each of the plurality of subareas further includes analyzing the first and second pluralities of average temperature values for each of the plurality of subareas using a fast Fourier transform analysis (see Claim 11, Col.7, line 42-44).

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9. In regard to **Claims 30-31, and 33**, the method disclosed above by Anbar inherently includes an apparatus to practice such method comprising of an imager, a converter, an averager, an analyzer, and a frequency analyzer.

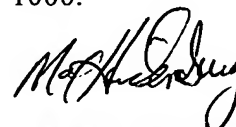
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen Nguyen whose telephone number is 571-272-8340. The examiner can normally be reached on Monday - Friday, 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on 571-272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HQN
7/7/2006



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